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# STUDY OF THE PREVALENCE OF PENILE CANCER IN THE STATE OF CEARÁ

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**Bernardo Rodrigues Lima[1], Jorge Ricardo Almeida de Souza Filho[2] and Diego Rodrigues Lima[3]**

## ABSTRACT

Penile cancer is a neoplasm that affects a male portion of the population, but it has an aggressive character, due to the severe consequences, when it is related to a surgical treatment that causes psychosocial problems, by interfering in the social life of the individual in the face of his socialization. The origin of penile cancer can be considered multifactorial, since it has triggering factors that increase the probability of the appearance of neoplasia, including poor hygiene, the presence of phimosis in adult life, association with the Human Papillomavirus (HPV) and smoking. Treatable in early stages, the loss of the organ is inevitable in more advanced cases. When bringing the aforementioned study to Brazil, the most affected regions are the North and Northeast, which can be linked to factors such as lack of schooling, social inequality and poverty, which can be evidenced by the most recent IBGE Demographic Census. Depending on this, the importance of self-care through good hygiene and routine medical follow-up is noted. This study aimed to determine the proportion of individuals who are affected by penile cancer at the Cancer Institute of Ceará (ICC), during the years 2017 to 2022 and sought to draw a parallel with the national case rate. Finally, it is noted the need for health strategies in order to promote educational campaigns for the social body in the face of penile cancer.

**Keywords:** Penile Cancer, Public Health, Male Neoplasm.

[1] Pharmacy Undergraduate
Uniateneu University Center
E-mail: bernardoenf2015@gmail.com
LATTES: http://lattes.cnpq.br/8723632120402367
[2] Master in Science and Mathematics Teaching
Federal Institute of Education, Science and Technology of Ceará
E-mail: prof.ricardo.ce@gmail.com
ORCID: https://orcid.org/0000-0003-1317-1100
LATTES: http://lattes.cnpq.br/9483620412144158
[3] Graduated in Business Administration
Vale do Acaraú University
E-mail: diegorl_@hotmail.com
LATTES: http://lattes.cnpq.br/7907550728818812

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## INTRODUCTION

According to SUNG et al. (2021), cancer is the main public health problem in the world, being one of the main causes of death and, as a consequence, one of the main barriers to increasing life expectancy. In most countries, it is the first or second cause of premature death, before the age of 70. Depending on this, aging, behavior and environmental changes, including structural changes, which have an impact on mobility, recreation, diet, and exposure to environmental pollutants, favor increased cancer incidence and mortality (WILD et al, 2020). Cancer is undoubtedly considered a public health problem in Brazil, constituting the second cause of death from disease in the country (INCA, 2010).

According to the Ministry of Health (2024), penile cancer is a rare type of cancer, with a higher incidence in men who are 50 years old or older and in Brazil, and this pathology is more common in the North and Northeast regions, representing 2% of all types of cancer that affect men.

Penile cancer is a more frequent neoplasm in less developed areas, which indicates that there is an association between the pathology and local economic conditions (SILVA et al, 2023). According to Calmon et al (2011), penile cancer ranks fourth in descending order in the country, after prostate, bladder and kidney cancer. Among the risk factors for penile pathology, the human papilloma virus (HPV), poor personal hygiene habits, phimosis, lack of circumcision and smoking can be mentioned, as they substantially increase the chances of developing penile neoplasia (WÜNSCH et al, 2010). According to the Brazilian Society of Urology (SBU), the state of Ceará is among the states with the highest number of penile amputations in the period between 2007 and 2022. The diagnosis of penile cancer is a challenging process that requires careful clinical evaluation, pathological staging, and radiographic evaluation (MOCH et al, 2016).

According to the Reference Center for Urologic Tumors, penile neoplasia is not considered a silent disease, with its development gradually, which leads to a probable lower number of amputations, since men need to have basic hygiene conditions and periodic visits to the urologist. He also mentions that smoking is a risk factor, especially if the smoker is a carrier of HPV. According to Jamal et al. (2006), early diagnosis is closely related to a beneficial prognosis, in addition to reducing sequelae, avoiding the loss of countless lives and reducing costs for the patient and the health system. Therefore, it is essential for men to be alert to changes in their intimate region, as the presence of signs and symptoms can

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indicate the beginning of some pathology, such as the presence of nodules, wounds that do not heal, odorous fluids and swelling in the glans, and finally, concludes that with early detection, the chances of an amputation are lower, since this procedure brings numerous problems later to the affected individual, whether due to the non-maintenance of sexual intercourse, the ability to urinate standing up, and psychological effects of non-acceptance and inferiority (SILVA and MOREIRA, 2021). According to Conceição et al. (2022), in comprehensive care for men, masculinities must be considered as interfering in the health and disease process.

While in Brazil penile neoplasm accounts for 2% of the diagnoses of all types of cancer identified among men, according to the American Cancer Society, in the United States this number represents 1% of the diagnoses of malignant neoplasms in men. In view of this perspective, the present study sought to quantify and establish this relationship between penile neoplasia and tumors that cause males in the unit of the Haroldo Juaçaba Hospital, which is part of the network of action of the Cancer Institute of Ceará (ICC), designated as a private and philanthropic institution. The choice for the unit was because it was a tertiary level hospital that covered urological care and because it was a reference in the state of Ceará.

In view of this, it is notorious the importance of analyzing the prevalence of cases diagnosed with penile cancer at the Cancer Institute of Ceará, in order to evaluate the number of cases, in order to awaken public health agencies in order to direct more effective prevention and control measures.

## METHODOLOGY

This study was developed taking into account the ethical principles of research involving human beings present in Resolution No. 466/2012 of the National Health Council/MS (Brasil, 2012). It is important to emphasize that all the data used were obtained from official health information systems, in the public domain, without individual identification, dispensing with the opinion of the National Research Ethics Committee (CONEP), together with the principles of scientific research listed by Pereira et al. (2018).

This is a cross-sectional, descriptive, retrospective and quantitative study, carried out in 2024 regarding cases of penile cancer that undergo oncological follow-up at the Cancer Institute of Ceará during the years 2017 to 2022. Data were collected from information available on the TABNET/DATASUS website. The sample from the period before the

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pandemic was delimited to 2022, since they are the most recent data, in order to obtain a more reliable rate with reality. Official data for 2023 and 2024 have not yet been made available on the DATASUS platform. On the platform, with the help of the TabNet application in the oncology panel option, the ICD-60 (Malignant neoplasm of the penis) was filtered, and there was refinement of the search for the years 2017 to 2022 and the establishment of diagnosis for the Haroldo Juaçaba Hospital.

For the discussion of the work, publications from the databases of the Scientific Electronic Library (SciELO), Pubmed and data from the National Cancer Institute (INCA) were used.

## RESULTS

From the data provided by the TABNET/DATASUS platform, it was possible to identify that within the study period there were a total of 167 patients diagnosed with penile neoplasia at the Cancer Institute of Ceará (ICC). Making a comparison between the years, it was noticeable that the annual rate that affects men was close, represented by 2% (Ministry of Health). However, during the years 2020 and 2021, there was a decline in the number of cases, corresponding to rates of 0.58% and 1.32%, respectively, which can be explained due to the COVID-19 pandemic, which had a series of restrictions, which resulted in a reduction in the circulation of people, sanitary impositions, a hospital environment conducive to viral exposure, in addition to the population's fear of seeking medical help. According to the cut, the rate of penile cancer compared to other types of cancer is 1.48%, and when analyzing and excluding the most critical period of the COVID-19 pandemic (2020 and 2021), this rate rises to 1.77%, which demonstrates a closer rate according to the Ministry of Health. In addition, it is worth noting that the year 2022 equaled the highest number (35) of cases per year, with a rate of 1.84% (Table), when compared to other types of neoplasms among men. It is worth noting that the cut of this work was according to the information obtained on the TABNET/DATASUS platform, since the years prior to 2017 were not contained in the database, and the year 2023 has not yet been indexed on the platform. In this way, data like these make it possible to study how it guides the population, demonstrating greater engagement and information in the search for treatment and screening.

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Table referring to cancer cases in male patients diagnosed with penile cancer and its rate

| YEARS | MALE PATIENTS DIAGNOSED WITH CANCER | PATIENTS DIAGNOSED WITH PENILE CANCER | RATE OF PENILE CANCER COMPARED TO OTHER NEOPLASMS |
|---|---|---|---|
| 2017 | 1.380 | 26 | 1,88% |
| 2018 | 1.884 | 33 | 1,75% |
| 2019 | 2.148 | 35 | 1,62% |
| 2020 | 1.891 | 11 | 0.58% |
| 2021 | 2.035 | 27 | 1,32% |
| 2022 | 1.895 | 35 | 1,84% |
| TOTAL | 11.233 | 167 | 1,48% |

Image Source: The Authors

According to the study, it is possible to analyze that penile neoplasia is diagnosed in the CHF on average 27.8 in men per year, demonstrating that it is a recurrent pathology of importance for public health. The incidence of penile cancer in the city of Fortaleza, according to the last census (2022) and the study, is 14.81 men for every 100,000 inhabitants. Similar to the data in the literature, the rate of 2% remains close to that of the study, since factors such as the absence of circumcision, inadequate hygiene habits, socioeconomic factors, HPV infections and inflammatory conditions are present in the state of Ceará, which can be demonstrated by the excessive number of cases.

## DISCUSSION

The diagnosis of penile cancer is seen as challenging, given its perspective of masculinity for men, from their search for medical help to the proof of their result (MOCH et al, 2016). According to the study, it is noted that the Northeast region raises the levels of cases of penile cancer at the national level, with high rates, which can be evidenced in the years 2019 and 2022, with 35 patients diagnosed at the unit of the Cancer Institute of Ceará respectively.

With regard to notifications and the search for a diagnosis, the state of Ceará has one more problem, since it has a vast territorial extension and access to the most complex health care network is located in the capital of Ceará, resulting in higher numbers of dropouts by men with regard to medical follow-up, tests and finally, a reliable diagnosis, which makes the individual more susceptible to the disease and therefore increasing the number of cases.

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## CONCLUSION

It is understood that the cases of penile cancer in Ceará diagnosed in the ICC have characteristics similar to other studies already developed in Brazil, but particularities of the Ceará scenario are highlighted, because despite being a rare pathology, in Ceará it is a disease that affects the daily life of several individuals, due to its relatively high incidence. Thus, it should be noted that several social, biological, economic, political, and environmental issues are linked to this type of cancer. Thus, it is valid to analyze that the constant number of cases requires screening measures for a continuation of treatment and support regarding the patient's individuality, in order to obtain more accurate diagnoses and humanized treatment, respecting their uniqueness. It is worth emphasizing the importance of public policies aimed at disease prevention, such as health education campaigns, for greater knowledge on the part of the population, since part of the social body is still unaware of a certain pathology. The importance of developing future research on the subject is highlighted to strengthen evidence on the disease and promote future care.

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